Please make the following amendments:

IN THE SPECIFICATION

[0036] Reference is directed to Figure 1, which is a diagram of an illustrative spatial environment in which the present invention would operate. A wireless network is located on the surface of Earth 4 and includes a number of wireless base stations, identified as items 6, 8, 10, 12, and 14 in Figure 1. Each base station generally defines a region of coverage, often times called a 'cell' of coverage. A mobile terminal unit 2 (or any number of mobile terminal units) operates within the coverage area of the wireless network. The terminal unit 2 generally operates on or near the surface of Earth 4. In the preferred embodiment, the wireless terminal unit comprises a GPS receiver that receives GPS signals from GPS satellites, illustrated as items 16, 18, 20, [[ands]] <u>and</u> 22 in Figure 1. The wireless terminal unit <u>2</u> also includes a CDMA transceiver operating in accordance with EAI-IS-95 in the preferred embodiment, and thereby communicates with the wireless network base stations, illustrated as base station 8 in Figure 1.

[0037] Reference is directed to Figure 2, which illustrates the 'cellular' coverage of a typical wireless base station 24 in the preferred embodiment. The base station 24 may comprise one or more CDMA transceiver systems in the preferred embodiment. In Figure 2, there are three transceiver systems, coupled to three antennas, illustrated as items 26, 28, and 30 in Figure 2. The antennas 26, 28, and 30 are generally oriented at 120° with respect to one another and employ directional antennas that radiate and receive signals in a radiation pattern generally shaped like a 120° wedge. Thus, the cellular coverage areas of each antenna 26, 28, and 30 are represented by radiation patterns 34, 32, and 36 respectively. The combination of these patterns generally define the 'cell' of coverage 38 of the wireless system base station 24. With respect to the present invention, it is noted that the wireless network in the preferred embodiment maintains wireless terminal unit call tracking information that resolves which sector and which base station a particular wireless terminal unit is accessing to place or receive a call. Furthermore, the wireless network contains data representative of the geographic area covered by each base station 'cell' and sector. Therefore, the location of a wireless terminal unit operating in a call is known, at [[lest]] <u>least</u> to the extent of the base station coverage area, and perhaps to the extent of the sector coverage area.

[0039] Reference is directed to Figure 4, which is a functional block diagram of a wireless base station 8 in the preferred embodiment of the present invention. The wireless base station 8 includes those components typically found in a CDMA base station as is understood by those skilled in the art, which generally includes one or more CDMA transceivers 54 and a base station controller 52. The CDMA transceiver 54 is coupled to one or more antennas 55. In the preferred embodiment, a GPS receiver 56 is collocated with the conventional base station components. The GPS receiver 56 is coupled to a GPS antenna 57, and is coupled to the CDMA controller and a separate position determining equipment unit 58 (hereinafter 'PDE'). The GPS receiver tracks all the GPS satellites in its field of view and provides the tracking information, and ephemeris information, to the controller 52 and PDE 58 as needed. The PDE 58 may or may not be collocated with the other base station equipment. The base station 8 is also interfaced with one or more communications networks in a typical installation.

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[0062] The term that varies in the estimate of the pseudo-range measurement as a function of the terminal unit [[8]] 2 location is therefore: $f(\bar{r}) = (\bar{r} - \bar{b}) \cdot \bar{1}_S - |\bar{r} - \bar{b}|$.

[0063] The distance between the terminal unit [[8]] 2 location and the base station 8 is defined as d, and φ is defined as the angle between the unit vector $\bar{1}_S$ and the vector going from the base-station 8 antenna to the terminal unit 2 location. Logically, these two parameters have the following ranges: $\begin{matrix} 0 \le d \le R \\ -\cos(\vartheta) \le \cos(\varphi) \le \cos(\vartheta) \end{matrix}$, where ϑ is the satellite 18 elevation relative to plane P 60. Using these parameters, the equation of $f(\bar{r})$ can be rewritten as: $f(d,\varphi) = d \cdot (\cos(\varphi) - 1)$. And, it is trivial to show that: $-R \cdot (\cos(\vartheta) + 1) \le f(d,\varphi) \le 0$. Hence, the estimated pseudo-range at any point inside the uncertainty region will be in the interval: $\rho_{BTS} - c_f - R \cdot (\cos(\vartheta) + 1) \le \rho_{user} \le \rho_{BTS} - c_f$.

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[0065] Reference is directed to Figure 7, which is a spatial view of the general case where the uncertainty region is not centered about the base station 8. Let P 66 be a plane parallel to the Earth tangential plane at the base-station 8 antenna location but not necessarily passing through it (typically, it will be below the base station antenna). Also, assume that the satellite 18 is above plane P 66 and that the base station 8 antenna is also above plane P 66. The terminal unit 2 is located within plane P 66 and it is assumed that the terminal unit uncertainty region A, 68 or 70,

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is a smooth contiguous area on plane P [[60]] 66. Since EIA IS-801 defines the uncertainty region as an ellipse, in order to make the aforesaid coplanar terminal unit location assumption, A must be restricted to a circle of radius R of at most 50km. This is consistent with the aforementioned 20 km assumption about CDMA 'cell' service area dimensions.

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[0067] In this case, the function will take both its minimum and maximum values on the boundary of the uncertainty area A 70. Since it is known that they are on the boundary, the boundary of A 70 is sampled and the value of the function f at each location is taken. Let $f_{\min}$ and $f_{\max}$ be the minimum and maximum values that f can take among all the sample locations chosen. The search window center and size are then given by:

$$\rho_{Center} = \rho_{BTS} - c_f + \frac{f_{\min} + f_{\max}}{2}$$

$$\rho_{Size} = f_{\max} - f_{\min}$$

Case where $C \in A$: